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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,000	07/06/2001	Heiner Jurs	089306-000000US	5128

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EXAMINER

TRAN, THUY V

ART UNIT PAPER NUMBER

2821

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/900,000

Applicant(s)

JURS ET AL.

Examiner

THUY V. TRAN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This is a response to the Applicants' filing on 07/06/2001 and preliminary amendment filed concurrently. According to the information therein, claims 1-13 were originally filed, claim 13 has been cancelled (based on the preliminary amendment), and thus, claims 1-12 are now presented in the instant application.

#### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the United States on 07/06/2001. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

#### ***Inventorship***

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

#### ***Drawings***

3. The drawings submitted on 07/06/2001 are accepted.

#### ***Specification Objections***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

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The following title is suggested:

--A LIGHT GRID FOR DETECTING OBJECTS IN A MONITORING REGION--.

5. The specification of the disclosure is objected to because (i) it is not written in a proper format, and (ii) it contains the following typographical errors:

Page 9, line 28, change "22" to --23--; and

Page 10, line 3, change "22" to --23--.

Appropriate correction is required.

*The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.*

#### **Arrangement of the Specification**

*As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:*

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

#### **Claim Objections/ Minor Informalities**

6. Claims 1-10 and 12 are objected to because of the following informalities:

Claim 1, line 1, "the detection of" should be changed to --detecting--;

Claim 1, line 4, "can be" should be changed to --being--;

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Claim 2, line 1, --at least one-- should be inserted after “the”;

Claim 3, line 1, --at least one-- should be inserted after “the”;

Claim 3, line 2, --of the transmitter unit-- should be inserted between “transmitter” and “to”;

Claim 3, line 3, “the transmitter and” should be deleted; and “units” should be changed to --unit--;

Claim 3, line 4, “(12, 16) comprising a plurality of light transmitters (22) or light receivers (26)” should be deleted;

Claim 4, line 2, “/” should be changed to --and--; and “can be” should be changed to --being--;

Claim 5, line 3, “can be” should be changed to --being--;

Claim 6, line 1, “the operation of” should be changed to --operating--; and “for the detection of” should be changed to --to detect--;

Claim 7, line 4, “a” should be changed to --the--;

Claim 8, line 1, “the” should be changed to --a--;

Claim 8, line 2, “respective” should be deleted;

Claim 8, line 4, “the” (second occurrence) should be changed to --a--;

Claim 8, line 5, “respective” should be changed to --other--;

Claim 8, line 6, --other-- should be inserted between “the” (first occurrence) and “respective”;

Claim 9, line 3, “to” should be deleted;

Claim 10, line 6, “the” should be changed to --a--; and “such” should be deleted;

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Claim 10, line 7, "an" should be deleted;

Claim 12, line 1, "the detection of" should be changed to --detecting--; and

Claim 12, line 5, "can be" should be changed to --being--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Pronovost (U.S. Patent No. 3,746,863).

With respect to claim 1, Pronovost discloses, in Figs. 1-3, a light grid for detecting objects in a monitoring region [12] having a transmitter unit comprising a plurality of light transmitters (having triangular shape, e.g. 14a, 14b, 15a, 15b; see Fig. 3) and a receiver unit comprising a plurality of light receivers (having circular shape, e.g. 16b, 16a, 17b, 17a; see Fig. 3), in which respective pairs of light transmitters and light receivers associated with one another and bounding the monitoring region [12] can be activated (via control circuit [18]; see Fig. 3) in succession in time (via timing circuit part [21]; see Fig. 4) in dependence on a synchronization signal (see Figs. 1-3; col. 3, lines 9-11) transmitted between the transmitter unit and the receiver unit, characterized in that light guides (which connect the transmitters to the receivers, respectively; e.g. 20, 27, 28; see Fig. 3) provided for the transmission of the synchronization signal (see Figs. 1-3; col. 3, lines 9-11).

With respect to claim 2, Fig. 3 of Pronovost shows that the light guides are arranged outside the monitoring region [12].

With respect to claim 3, Fig. 3 of Pronovost shows that the light guides connect the first or last light transmitter to the first or last light receiver of the transmitter and receiver units (the recitation “comprising a plurality of light transmitters or light receivers respectively” is meaningless; therefore, it was suggested to be deleted. See Claims Objections/ Minor Informalities).

With respect to claim 4, Pronovost discloses that the other light transmitter and light receiver pairs can be automatically activated in succession at defined time intervals after the transmission and reception of the synchronization signal (see col. 3, lines 38-55).

With respect to claim 5, Pronovost discloses, in Fig. 3, that permitted object sizes and/or movements of the object located in the monitoring region [12] can be learned by a control unit [18] (via connections between the transmitters/receivers and the control unit [18]; see Fig. 3).

With respect to claim 6, Pronovost discloses, in Figs. 1-3, a detecting light grid and a corresponding method for detecting objects in a monitoring region [12] (see Fig. 1), in which light signals are transmitted from a transmitter unit comprising a plurality of light transmitters (having triangular shape, e.g. 14a, 14b, 15a, 15b; see Fig. 3) to a receiver unit comprising a plurality of light receivers (having circular shape, e.g. 16b, 16a, 17b, 17a; see Fig. 3), with respective pairs of light transmitters and light receivers associated with one another and bounding the monitoring region [12] being activated in succession in time (via timing circuit part [21]; see Fig. 4) in dependence on a synchronization signal (see Figs. 1-3; col. 3, lines 9-11) transmitted between the transmitter unit and the receiver unit, characterized in that the

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synchronization signal is transmitted during operation from the transmitter unit to the receiver unit via changing pairs of light transmitters and light receivers associated with one another.

With respect to claim 7, Fig. 3 of Pronovost shows that when the transmission of the synchronization signal between a first pair of light transmitter and light receiver is interrupted or if such an interruption is due, a transmission of the synchronization signal takes place between a second pair of light transmitter and light receiver.

With respect to claim 8, Fig. 3 of Pronovost shows that a first pair consists of the first or last light transmitter of the transmitter unit and the respective first or last light receiver of the receiver unit; and/or that a second pair consists of the other last or first light transmitter of the transmitter unit and the other respective last or first light receiver of the receiver unit.

With respect to claim 9, Fig. 3 of Pronovost shows that a switch signal (provided from relay [13]; see Fig. 3) is only emitted when a pre-determined minimum number of light receivers (26) adjacent one another do not report any reception and an object located in the monitoring region [12] thus exceeds a pre-determined minimum size.

With respect to claim 10, Fig. 3 of Pronovost shows that the object not exceeding the pre-determined minimum size is also detected in the monitoring region [12], and that a change of the pair of light transmitter and light receiver responsible for the transmission of the synchronization signal takes place in dependence on the position and/or direction of movement of the object.

With respect to claim 11, Fig. 3 of Pronovost shows that the transmission of the synchronization signal takes place in dependence on a fixed or determined direction of object entry into the monitoring region [12] via a first or a second pair of light transmitter and light receiver.



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With respect to claim 12, Pronovost discloses, in Figs. 1-3, a light grid for detecting objects in a monitoring region [12] (see Fig. 1) having a transmitter unit comprising a plurality of light transmitters (having triangular shape, e.g. 14a, 14b, 15a, 15b; see Fig. 3) and a receiver unit comprising a plurality of light receivers (having circular shape, e.g. 16b, 16a, 17b, 17a; see Fig. 3) in which respective pairs of light transmitters and light receivers associated with one another and bounding the monitoring region [12] can be activated in succession in time (via timing circuit part [21]; see Fig. 4) in dependence on a synchronization signal (see Figs. 1-3; col. 3, lines 9-11) transmitted between the transmitter unit and the receiver unit, characterized in that a control unit [18] (see Fig. 3) is provided for the transmission of the synchronization signal from the transmitter unit to the receiver unit via changing pairs of light transmitters and light receivers associated with one another.

***Citation of relevant prior art***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Clemens (U.S. Patent No. 5,130,532) discloses a light barrier grid.

Prior art Steiner et al. (U.S. Patent No. 4,338,597) discloses a remote monitor interface.

Prior art Weber et al. (U.S. Patent No. 4,266,124) discloses a photoelectric object detecting system.

Prior art De Missimy et al. (U.S. Patent No. 3,805,061) discloses an object detecting apparatus.

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***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY V. TRAN whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:30 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DON K. WONG can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THUY V. TRAN  
Examiner  
Art Unit 2821

T.T.  
02/21/2004

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', is written over the printed name and title.